

REMARKS

Claims 1-18 and 20-31 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Stubbs et al. (U.S. Patent No. 6,277,160) in view of Martin et al. (U.S. Patent No. 5,551,959).

Stubbs describes reports a method for making an abrasive article having at least two abrasive coatings having different abrasive natures. The abrasive natures can differ, for example, by abrasive particle size, abrasive particle type, abrasive particle shape, fill, surfactant, or coupling agent. In one embodiment, an the abrasive article does not include abrasive particles. Stubbs does not teach or suggest the use of a diamond-like carbon coating.

The Office Action supplements the deficiency of Stubbs with Martin et al. The Office Action states that:

“Martin et al. teaches an abrasive article having a diamond-like coating layer (48). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the article of Stubbs et al. with a diamond-like coating as taught by Martin et al. as wear protective layer, col. 3, line 28.”

Applicants disagree with the position taken in the Office Action. The Examiner has simply picked from among the many disclosed embodiments of the cited references without providing any motivation to combine the references to provide Applicant's invention. The prior art must provide a motivation or reason for the worker in the art, without the benefit of the teaching of the application, to make the necessary changes to the device. Here, there is no reason to select the abrasive article of Stubbs that is free of abrasive particles and to modify this article by adding to it a diamond-like carbon coating. As taught in the present specification, abrasive articles that are free of abrasive particles and have a diamond-like carbon coating are particularly suited for mechanically treating rigid disk substrates since they do not contaminate the substrates with loose abrasive particles. This advantage, however, is not taught nor suggested in the prior art. For example, it is not clear from the prior art that a diamond-like carbon coating would be preferred over conventional abrasive

particles when it is desired to minimize any contamination of an abraded substrate. For example, it is not clear from the prior art whether diamond-like carbon coatings would deteriorate into particulate during abrading operations. In addition, it would not have been obvious that such an abrasive article would be well suited for mechanically treating rigid disk substrates.

In conclusion, it appears that the Examiner has relied upon hindsight in assembling the features making up the abrasive article of the present invention from among countless choices in the prior art references.

Claims 1, 2, 5-18 and 20-31 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Stoetzel (U.S. Patent No. 5,928,394)

Martin et al. describes abrasive articles having a diamond-like coating and methods for making same. The abrasive articles of Martin et al. include abrasive particles adhered to a make coating (see, FIGS. 1-3) or dispersed throughout a slurry coating (see, FIG. 4). Martin et al. does not teach or suggest an abrasive article that is free of abrasive particles.

The Office Action supplements the deficiency of Martin et al. with Stoetzel, stating that:

“It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the abrasive article of Martin et al. by eliminating the abrasive particles in the binder (44) as taught by Stoetzel to adapt the article for polishing soft workpieces, col. 8, lines 6-8.”

Applicants disagree with the position taken in the Office Action. The prior art must provide a motivation or reason for the worker in the art, without the benefit of the teaching of the application, to make the necessary changes in the device. Here, there is no reason to eliminate the abrasive particles from an abrasive article of Martin et al. as suggested by the Examiner in the Office Action. If polishing soft workpieces were desired, the abrasive articles of Stoetzel, that are free of abrasive particles would be suitable by themselves and would not require the addition of a diamond-like

carbon coating. The prior art does not teach or suggest the desirability of utilizing a diamond-like carbon coating rather than abrasive particles to prevent contamination of the abraded substrate. For example, it is not clear from the prior art whether diamond-like carbon coatings would deteriorate into particulate during abrading operations. In addition, it would not have been obvious that such an abrasive article would be well suited for mechanically treating rigid disk substrates.

In conclusion, it appears that the Examiner has relied upon hindsight in assembling the features making up the abrasive article of the present invention from among countless choices in the prior art references.

Claims 1-18 and 20-31 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Stubbs et al. (U.S. Patent No. 6,277,160)

Martin et al. describes abrasive articles having a diamond-like coating and methods for making same. The abrasive articles of Martin et al. include abrasive particles adhered to a make coating (see, FIGS. 1-3) or dispersed throughout a slurry coating (see, FIG. 4). Martin et al. does not teach or suggest an abrasive article that is free of abrasive particles.

The Office Action supplements the deficiency of Martin et al. with Stubbs et al. stating that:

"It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the abrasive article of Martin et al. by eliminating the abrasive particles in the binder (44) as taught by Stubbs et al. to adapt the article for polishing and buffing applications, Stubbs, col. 15, lines 10-17 while reducing manufacturing costs (elimination of the abrasive particle)."

Applicants disagree with the position taken in the Office Action. The prior art must provide a motivation or reason for the worker in the art, without the benefit of the teaching of the application, to make the necessary changes in the device. Here, there is no reason to eliminate the abrasive particles from an abrasive article of Martin

et al. as suggested by the Examiner in the Office Action. If polishing and buffing properties were desired, the abrasive articles of Stubbs, that are free of abrasive particles would be suitable by themselves and would not require a diamond-like carbon coating. The prior art does not teach or suggest the desirability of utilizing a diamond-like carbon coating rather than utilizing abrasive particles to prevent contamination of an abraded substrate. For example, it is not clear from the prior art whether diamond-like carbon coatings would deteriorate into particulate during abrading operations. In addition, it would not have been obvious that such an abrasive article would be well suited for mechanically treating rigid disk substrates.

In conclusion, it appears that the Examiner has relied upon hindsight in assembling the features making up the abrasive article of the present invention from among countless choices in the prior art references.

In view of the above, it is submitted that the rejections of claims 1-18 and 20-31 under 35 U.S.C. §103(a) have been overcome and should be withdrawn.

Respectfully submitted,

| | |
|---------------------|------------------|
| Registration Number | Telephone Number |
| 43,869 | (651) 736-3512 |
| Date | |
| March 21, 2003 | |

| | |
|------------|--|
| Signature |  |
| Print Name | Scott R. Pribnow |

Office of Intellectual Property Counsel
3M Innovative Properties Company
P.O. Box 33427
St. Paul, Minnesota 55133-3427